



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*

Joseph E. Kernan  
Governor

Lori F. Kaplan  
Commissioner

December 30, 2003

100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015  
(317) 232-8603  
(800) 451-6027  
[www.in.gov/idem](http://www.in.gov/idem)

TO: Interested Parties / Applicant

RE: Kimball Electronics Auburn / 033-18168-00066

FROM: Paul Dubenetzky  
Chief, Permits Branch  
Office of Air Quality

## Notice of Decision: Approval - Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures  
FN-REGIS.dot 9/16/03



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Robert McKenzie, General Manager  
Kimball Electronics Auburn  
1015 W. 15<sup>th</sup> Street  
Auburn, IN 46706

033-18168-00066  
Registration Revision to  
Registration 033-7191-00066

Dear Mr. McKenzie:

The application from Kimball electronics Auburn, received on November 06, 2003, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5-6, it has been determined that the registration for the automotive, truck, and recreational vehicle electronic board assembly operation, to be located at 1015 W. 15<sup>th</sup> Street, Auburn, IN 46706, Indiana, is hereby revised as follows:

- (a) line # 31 with a maximum capacity of 260 units per hour and using water based coating material, constructed in 1996, consisting of the following:
  - (1) one (1) conceptronics reflow, identified as EF-17;
  - (2) one (1) flow solder, exhausting to stack EF-19; and
- (b) line # 101 with a maximum capacity of 130 units per hour and using water based coating material, constructed in 1999, consisting of the following:
  - (1) one (1) line # 101 electrovert, flow solder, exhausting to stack EF-21; and
  - (2) one (1) line # 101 conceptronics reflow oven, exhausting to stack EF-24.
- (c) line # 102 with a maximum capacity of 125 units per hour and using water based coating material, constructed in 1999, consisting of the following:
  - (1) one (1) line # 102 flow solder and spray flux, exhausting to stack EF-25.
- (d) line # 104 with a maximum capacity of 60 units per hour and using VOC based coating material, consisting of the following:
  - 1) two (2) line # 104 coaters, P.V.A coater # 1 and 2, both exhausting to stack EF-14; and
  - 2) two(2) line # 104 electric cure ovens, P.V.A cure oven # 1 and 2, both exhausting to stack EF-14;
- (e) one (1) welding booth, exhausting to stack EP-4;

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- (f) one (1) touchup spray booth utilizing dry filters as control, exhausting to stack EP-7;
- (g) one (1) flammable cabinet, exhausting to stack EF-13;

00066

Permit Reviewer: RT/ EVP

- (h) one (1) emergency diesel generator, with a maximum capacity of 15 kWh, identified as GEN-1;
- (i) two (2) emergency gasoline generators, with a maximum capacity of 360 HP and 275 HP, identified as R&D1 and R&D2; and
- (j) two (2) hot water boilers, each with a rated heat input of 1.7 mmBtu per hour of natural gas, identified as BS-1 and BS-2.

The following conditions shall be applicable:

- a) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
  - (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period
- b) Pursuant to 326 IAC 6-2-4 (Particulate emissions limitations for sources of indirect heating), the particulate matter emissions from the two (2) 1.7 mmBtu per hour natural gas boilers shall be limited to 0.6 pounds per mmBtu (lb/mmBtu).

This registration supersedes any previous air approvals issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

**Compliance Data Section  
Office of Air Quality  
100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, IN 46206-6015**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

Permit Reviewer: RT/ EVP

RT/EVP

cc: File - Dekalb County  
Dekalb County Health Department  
Air Compliance - Doyle Houser  
Permit Tracking  
Air Programs Section- Michelle Boner

Permit Reviewer: RT/ EVP

## Registration

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

<b>Company Name:</b>	<b>Kimball Electronics Auburn</b>
<b>Address:</b>	<b>1015 W. 15<sup>th</sup> Street</b>
<b>City:</b>	<b>Auburn</b>
<b>Authorized individual:</b>	<b>Robert McKenzie</b>
<b>Phone #:</b>	<b>260-925-8710</b>
<b>Registration #:</b>	<b>033-18168-00066</b>

I hereby certify that Kimball Electronics Auburn (formerly VDO Control Systems) is still in operation and is in compliance with the requirements of Registration 033-18168-00066 .

<b>Name (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

## **Indiana Department of Environmental Management Office of Air Quality**

### **Technical Support Document (TSD) for a Registration Revision**

#### **Source Background and Description**

**Source Name:** Kimball Electronics Auburn  
**Source Location:** 1015 W. 15<sup>th</sup> Street, Auburn, IN 46706  
**County:** Dekalb  
**SIC Code:** 3399  
**Operation Permit No.:** 033-7191-00066  
**Permit Reviewer:** RT / EVP

The Office of Air Quality (OAQ) has reviewed an application from Kimball Electronics Auburn (formerly VDO Control Systems) , requesting the revision to Registration 033-7191-00066, issued on September 28, 1999 due to the construction of the following proposed new emission unit:

- (a) line # 104 with a maximum capacity of 60 units per hour and using VOC based coating material, consisting of the following:
  - (1) two (2) line # 104 coaters, P.V.A coater # 1and 2, both exhausting to stack EF-14; and
  - (2) two(2) line # 104 electric cure ovens, P.V.A cure oven # 1and 2, both exhausting to stack EF-14;

#### **Source History**

This source was issued a Registration No. 033-7191-00066 on September 28, 1999 for the operation of an automotive, truck, and recreational vehicle electronic board assembly operation. Since receiving their initial registration, the source has removed some equipment. This approval will also incorporate the removal of this equipment.

#### **Existing Approvals**

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Registration No. 033-7191-00066, issued on September 28, 1999.
- (b) Administrative-name change and transfer of owner ship to Registration No. 033-15076-00066, issued on January 23, 2002

All conditions from previous approvals were incorporated into this permit.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
EF # 14	line # 104 P.V.A Coater # 1	15	6"	100	72
EF # 14	line # 104 P.V.A Cure Oven # 1	15	6"	100	86
EF # 14	line # 104 P.V.A Coater # 2	15	6"	100	72
EF # 14	line # 104 P.V.A Cure Oven # 2	15	6"	300	86

### Enforcement Issue

There are no enforcement actions pending.

### Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 06, 2003, with additional information received on December 03, 2003.

### Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 4).

### Uncontrolled Potential Emissions for the New Emission Units

The table reflects the unrestricted potential to emit from the new emission units.

Pollutant	Potential To Emit (tons/year)
PM	1.08
PM-10	1.08
SO <sub>2</sub>	0.00
VOC	14.96
CO	0.00
NO <sub>x</sub>	0.00

  

HAPs	Potential To Emit (tons/year)
MEK	1.35
Total	1.35

### Uncontrolled Potential Emissions for the Entire Source



The table reflects the unrestricted potential to emit from the entire source including the new emissions units and the removal of some existing equipment.

Pollutant	Potential To Emit (tons/year)
PM	3.58
PM-10	3.68
SO <sub>2</sub>	0.12
VOC	15.38
CO	0.39
NO <sub>x</sub>	3.34

HAPs	Potential To Emit (tons/year)
MEK	1.35
Total	1.49

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants are less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of criteria pollutants from the entire source after the proposed revisions will be less than 25 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-6.1.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC due to the modification is greater than levels listed in 326 IAC 2-1.1-3(d)(1). Therefore the revision will be reviewed as a registration revision pursuant to the provisions of 326 IAC 2-5.5.1.

#### County Attainment Status

The source is located in Dekalb County.

Pollutant	Status
PM-10	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Dekalb County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Dekalb County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) Fugitive Emissions  
This is not one of the 28 listed source categories under 326 IAC 2-2, or 326 IAC 2-3. Since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

## Source Status

Existing Source (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	2.38
PM10	2.38
SO <sub>2</sub>	0.12
VOC	0.17
CO	0.39
NO <sub>x</sub>	3.34

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on the information provided in the source's permit applications (see Appendix A for emission calculations).

## Part 70 Permit Determination

### 326 IAC 2-7 (Part 70 Permit Program)

The total emissions indicated in this Registration R-033-18168-00008, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

## Federal Rule Applicability

- (a) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 61) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 20 and 40 CFR art 63) applicable to this source.

## State Rule Applicability - Entire Source

### 326 IAC 2-4.1-1 (New Source Toxics Control)

This source is not subject to 326 IAC 2-4.1-1 (New Source Toxics Control) because the source has PTE of any HAP less than 10 tons per year and PTE of any combination of HAPs less than 25 tons per year. Therefore, 326 IAC 2-4.1-1 does not apply.

### 326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), because it is located in DeKalb County and has the potential to emit less than one hundred (100) tons per year of particulate matter (PM, PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), and oxides of nitrogen (NO<sub>x</sub>).

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-2-4 (Particulate emissions limitations for sources of indirect heating)

Pursuant to 326 IAC 6-2-4, the particulate matter emissions from the two (2) 1.7 mmBtu per hour natural gas boilers shall be limited to 0.6 pounds per mmBtu (lb/mmBtu), as the lesser of the value  $Pt$  computed with the following formula:

$Pt = 1.09 / Q^{0.26}$  where:  $Pt$  = pounds of PM emitted per mmBtu heat input (lb/mmBtu)  
 $Q$  = total source maximum operating capacity rating in million Btu per hour (mmBtu/ hr) heat Input.

$Pt = 0.79$  lb/mmBtu

Since  $Q$  is less than 10 mmBtu/hr, therefore the PM emissions from the two gas boilers is limited to 0.6 lb/mmBtu.

Based on calculations made below, the PM emissions from two (2) natural gas fired boilers are 0.1 lb /MMBtu. Hence the boilers are in compliance with this requirement.

**Proposed Changes**

The registration letter language is changed to read as follows (deleted language appears as strikeouts, new language appears in bold).

The application from Kimball Electronics Auburn, received on November 06, 2003, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5-6, it has been determined that the registration for the automotive, truck, and recreational vehicle electronic board assembly operation, to be located at 1015 W. 15<sup>th</sup> Street, Auburn, IN 46706, Indiana, is hereby revised as follows:

- (a) line # 4 **31** with a maximum capacity of 260 units per hour and using water based coating material, **constructed in 1996**, consisting of the following:
  - (1) one (1) conceptronics reflow, identified as EF-17; **and**
  - ~~(2) one (1) ultrasonic systems spray fluxer with nitrogen blanket, exhausting to stack EF-18;~~
  - ~~(3)~~ **(2)** one (1) flow solder, exhausting to stack EF-19;
- ~~(b) one (1) potting (encapsulated) process, with a maximum capacity of 50 units per hour, consisting of the following:~~
  - ~~(1) one potting fill station, exhausting to stack EF~~
- ~~(c)~~ **(b)** line #2 **101** with a maximum capacity of 130 units per hour and using water based coating material, **constructed in 1999**, consisting of the following:
  - (1) one (1) line # 2 **101** electrovert, flow solder, exhausting to stack EF-21; and

- ~~(2)~~ ~~one (1) line #2 electrovert, spray fluxer with nitrogen blanket, exhausting to stack EF-22;~~
- ~~(2)~~ ~~(3)~~ **(2)** one (1) line # 2 **101** conceptronics reflow oven, exhausting to stack EF-24.
- ~~(d)~~ **(c)** line #3 **102** with a maximum capacity of 125 units per hour and using water based coating material, **constructed in 1999**, consisting of the following:
- (1) one (1) line # 3 **102** flow solder and spray flux, exhausting to stack EF-25.
- ~~(e)~~ ~~line #5, with a maximum capacity of 125 units per hour, consisting of the following:~~
- ~~(1)~~ ~~one (1) pillerhouse flow solder, exhausting to stack EF-50; and~~
- ~~(2)~~ ~~one (1) cure oven, exhausting to stack EF-40 & EF-41.~~
- ~~(f)~~ ~~one (1) Buick potting process, with a maximum capacity of 50 units per hour, consisting of the following:~~
- ~~(1)~~ ~~one (1) brick potting cure oven, exhausting to stack EF-31.~~
- ~~(g)~~ ~~one (1) valox overmolding process, with a maximum capacity of 50 units per hour, consisting of the following:~~
- ~~(1)~~ ~~one (1) hood-plastic overmolding, exhausting to stack EF-10; and~~
- ~~(2)~~ ~~one (1) hood-plastic overmolding, exhausting to stack EF~~
- (d) line # 104 with a maximum capacity of 60 units per hour and using VOC based coating material, consisting of the following:**
- (1) two (2) line # 104 coaters, P.V.A coater # 1and 2, both exhausting to stack EF-14; and**
- (2) two(2) line # 104 electric cure ovens, P.V.A cure oven # 1and 2, both exhausting to stack EF-14;**
- ~~(h)~~**(e)** one (1) welding booth, exhausting to stack EP-4;
- ~~(i)~~ **(f)** one (1) touchup spray booth utilizing dry filters as control, exhausting to stack EP-7;
- ~~(j)~~ **(g)** one (1) flammable cabinet, exhausting to stack EF-13;
- ~~(k)~~ ~~one (1) sensors cure oven, with a maximum capacity of 125 units per hour, exhausting to stack EF-34;~~
- ~~(l)~~ **(h)** one (1) emergency diesel generator, with a maximum capacity of 15 kWh, identified as GEN-1;
- ~~(m)~~ **(i)** two (2) emergency gasoline generators, with a maximum capacity of 360 HP and 275 HP, identified as R&D1 and R&D2; and
- ~~(n)~~ **(j)** two (2) hot water boilers, each with a rated heat input of 1.7 mmBtu per hour of natural gas, identified as BS-1 and BS-2.

## Conclusion

The operation of this automotive, truck, and recreational vehicle electronic board assembly shall be subject to the conditions of the attached proposed Registration Revision No. 033-18168-00066.

**Potential Emissions from Existing Lines**

**Company Name:** Kimball Electronics Auburn  
**Address City IN Zip:** 1015 West 15th Street Auburn, Indiana  
**Registration** 033-18168-00066  
**Reviewer:** RT/ EVP  
**Date:** December 9, 2003

**Emissions from existing source after the removal of few lines**

Material	Process	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Lb VOC/gal solids	Transfer Efficiency
<b>Emissions from Lines</b>																	
NR310 VOC Free Flux	Line 31(Formerly 1)	8.34	0.00%	0.0%	0.0%	0.0%	100.00%	0.05000	1.000	0.00	0.00	0.00	0.00	0.00	0.18	0.00	90%
NR310B VOC Free Flux	Line 101(Formerly 2)	8.34	0.00%	0.0%	0.0%	0.0%	100.00%	0.30000	1.000	0.00	0.00	0.00	0.00	0.00	1.10	0.00	90%
NR310B VOC Free Flux	Line 102 (Formerly 3)	8.34	0.00%	0.0%	0.0%	0.0%	100.00%	0.30000	1.000	0.00	0.00	0.00	0.00	0.00	1.10	0.00	90%
<b>Miscellaneous Emissions</b>																	
Aerosol Paint	Spray Paint Booth	8.34	75.00%	0.0%	75.0%	0.0%	25.00%	0.00500	1.000	6.26	6.26	0.03	0.75	0.14	0.00	25.02	90%
N / A	Flame Cabinet (Garage)	8.34	100.00%	0.0%	100.0%	0.0%	0.00%	0.00100	1.000	8.34	8.34	0.01	0.20	0.04	0.00	#DIV/0!	90%
												<b>0.04</b>	<b>0.95</b>	<b>0.17</b>	<b>2.38</b>		

**State Potential Emissions**  
 METHODOLOGY
**Add worst case coating to all solvents**

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

**Potential Emissions from Proposed Line 104**

**Company Name:** Kimball Electronics Auburn  
**Address City IN Zip:** 1015 West 15th Street Auburn, Indiana  
**Registration** 033-18168-00066  
**Reviewer:** RT/ EVP  
**Date:** December 9, 2003

**Emissions from proposed line 104**

Material	Process	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
<b>Emissions from Line 104</b>																	
Humiseal 1B73	Line 104	7.67	70.00%	0.0%	70.0%	0.0%	30.00%	0.00445	60.000	5.37	5.37	1.43	34.40	6.28	1.08	17.90	60%
Humiseal Thinner	Line 104	7.34	100.00%	0.0%	100.0%	0.0%	100.00%	0.00450	60.000	7.34	7.34	1.98	47.56	8.68	0.00	7.34	60%
												<b>3.42</b>	<b>81.97</b>	<b>14.96</b>	<b>1.08</b>		

**State Potential Emissions**  
**METHODOLOGY**

**Add worst case coating to all solvents**

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

**Potential Emissions from Existing Lines**

**Company Name:** Kimball Electronics Auburn  
**Address City IN Zip:** 1015 West 15th Street Auburn, Indiana  
**Registration** 033-18168-00066  
**Reviewer:** RT/ EVP  
**Date:** December 9, 2003

**Emissions from existing source after the removal of few lines**

Material	Process	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Lb VOC/gal solids	Transfer Efficiency
<b>Emissions from Lines</b>																	
NR310 VOC Free Flux	Line 31(Formerly 1)	8.34	0.00%	0.0%	0.0%	0.0%	100.00%	0.05000	1.000	0.00	0.00	0.00	0.00	0.00	0.18	0.00	90%
NR310B VOC Free Flux	Line 101(Formerly 2)	8.34	0.00%	0.0%	0.0%	0.0%	100.00%	0.30000	1.000	0.00	0.00	0.00	0.00	0.00	1.10	0.00	90%
NR310B VOC Free Flux	Line 102 (Formerly 3)	8.34	0.00%	0.0%	0.0%	0.0%	100.00%	0.30000	1.000	0.00	0.00	0.00	0.00	0.00	1.10	0.00	90%
<b>Miscellaneous Emissions</b>																	
Aerosol Paint	Spray Paint Booth	8.34	75.00%	0.0%	75.0%	0.0%	25.00%	0.00500	1.000	6.26	6.26	0.03	0.75	0.14	0.00	25.02	90%
N / A	Flame Cabinet (Garage)	8.34	100.00%	0.0%	100.0%	0.0%	0.00%	0.00100	1.000	8.34	8.34	0.01	0.20	0.04	0.00	#DIV/0!	90%
												<b>0.04</b>	<b>0.95</b>	<b>0.17</b>	<b>2.38</b>		

**State Potential Emissions**  
 METHODOLOGY
**Add worst case coating to all solvents**

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used



**Potential Emissions from Proposed Line 104**

**Company Name:** Kimball Electronics Auburn  
**Address City IN Zip:** 1015 West 15th Street Auburn, Indiana  
**Registration** 033-18168-00066  
**Reviewer:** RT/ EVP  
**Date:** December 9, 2003

**Emissions from proposed line 104**

Material	Process	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
<b>Emissions from Line 104</b>																	
Humiseal 1B73	Line 104	7.67	70.00%	0.0%	70.0%	0.0%	30.00%	0.00445	60.000	5.37	5.37	1.43	34.40	6.28	1.08	17.90	60%
Humiseal Thinner	Line 104	7.34	100.00%	0.0%	100.0%	0.0%	100.00%	0.00450	60.000	7.34	7.34	1.98	47.56	8.68	0.00	7.34	60%
												<b>3.42</b>	<b>81.97</b>	<b>14.96</b>	<b>1.08</b>		

**State Potential Emissions**  
**METHODOLOGY**

**Add worst case coating to all solvents**

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

**Potential HAP emissions from Existing lines and Proposed line 104**

**Company Name:** Kimball Electronics Auburn  
**Address City IN Zip:** 1015 West 15th Street Auburn, Indiana  
**Registration** 033-18168-00066  
**Reviewer:** RT/ EVP  
**Date:** December 9, 2003

Material	Process	Density	Gallons of Material	Maximum	Weight %	Weight %	Weight %	Weight %	Weight %	Xylol Emissions	Toluene Emissions	MEK Emissions	Hexane Emissions	Glycol Ethers Emissions	Total
		(Lb/Gal)	(gal/unit)	(unit/hour)	Xylol	Toluene	MEK	Hexane	Glycol Ethers	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)	(ton/yr)

**Emissions from existing source after the removal of few lines**

Aerosol paint	Spray Paint booth	8.34	0.005	1.00	25.00%	40.00%	0.00%	0.00%	0.00%	0.05	0.07	0.00	0.00	0.00	0.12
N /A	Flame Cabinet (Garage)	8.34	0.001	1.00	25.00%	40.00%	0.00%	0.00%	0.00%	0.01	0.01	0.00	0.00	0.00	0.02

**HAP Emissions proposed line 104**

Humiseal 1B73	Line 104	7.67	0.00445	60.000	0.00%	0.00%	15.00%	0.00%	0.00%	0.00	0.00	1.35	0.00	0.00	1.35
Humiseal Thinner	Line 104	7.34	0.00450	60.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00

Total State Potential Emissions **0.05      0.09      1.35      0.00      0.00      1.49**

**METHODOLOGY**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100  
Small Industrial Boiler**

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**Company Name:** Kimball Electronics Auburn  
**Address City IN Zip:** 1015 West 15th Street Auburn, Indiana  
**Registration** 033-18168-00066  
**Reviewer:** RT/ EVP  
**Date:** December 9, 2003

**Heat Input Capacity (two (2))  
MMBtu/hr**

3.4

**Potential Throughput  
MMCF/yr**

29.8

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.1	0.0	1.5	0.1	1.3

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

### Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**  
**Small Industrial Boiler**  
**HAPs Emissions**

Page 5 of 8 TSD App A

**Company Name:** Kimball Electronics Auburn  
**Address City IN Zip:** 1015 West 15th Street Auburn, Indiana  
**Registration** 033-18168-00066  
**Reviewer:** RT/ EVP  
**Date:** December 9, 2003

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzen e 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.127E-05	1.787E-05	1.117E-03	2.681E-02	5.063E-05

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	7.446E-06	1.638E-05	2.085E-05	5.659E-06	3.127E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

# Appendix A: Emissions Calculations

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## Welding and Thermal Cutting

**Company Name:** Kimball Electronics Auburn  
**Address City IN Zip:** 1015 West 15th Street Auburn, Indiana  
**Registration** 033-18168-00066  
**Reviewer:** RT/ EVP  
**Date:** December 9, 2003

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
			PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING											
Submerged Arc	0	0	0.036	0.011			0.000	0.000	0.000	0	0.000
Metal Inert Gas (MIG)(carbon steel)	0	0	0.0055	0.0005			0.000	0.000	0.000	0	0.000
Stick (E7018 electrode)	1	0.0002	0.0211	0.0009			0.000	0.000	0.000	0	0.000
Tungsten Inert Gas (TIG)(carbon steel)	0	0	0.0055	0.0005			0.000	0.000	0.000	0	0.000
Oxyacetylene(carbon steel)	0	0	0.0055	0.0005			0.000	0.000	0.000	0	0.000
EMISSION TOTALS											
Potential Emissions lbs/hr							0.00				0.00
Potential Emissions lbs/day							0.00				0.00
Potential Emissions tons/year							0.00				0.00

## METHODOLOGY

\*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column

\*\*Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min)

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2

welding.xls (11/99)

### Potential Emissions from Diesel and Gasoline Emergency Generators

**Company Name:** Kimball Electronics Auburn  
**Address City IN Zip:** 1015 West 15th Street Auburn, Indiana  
**Registration** 033-18168-00066  
**Reviewer:** RT/ EVP  
**Date:** December 9, 2003

A. Diesel Engine Emissions calculated based on heat input capacity (MMBtu/hr)

Heat Input capacity (MMBtu/hr) 0.051

	PM	PM10	SO2	NOX	VOC	CO
Emissions factor in lb / MMBtu	0.31	0.31	0.29	4.41	0.36	0.95
Potential Emissions in tons / yr	0.004	0.004	0.004	0.056	0.005	0.012

Note:

Material Usage Limitation of 500 hours per year as standby emergency generators.

Methodology:

Heat Input Capacity = Max. Fuel Usage (gal/hr) \* Fuel Heating Value (Btu/gal) \* (MM/1e6)

Emission Factors are from AP-42 (Fifth edition, January 1995), Table 3.3-2

Emission (tons/yr) = Heat Input Capacity (MMBtu/hr) \* Emission Factor (lb/MMBtu) \* (500hr/yr) \* (ton/2,000 lb)

Controlled Emissions = Uncontrolled Emissions \* Material Usage Limitation

B. Two (2) Gasoline Engine Emissions calculated based on total heat input capacity (MMBtu/hr)

Heat Input capacity (MMBtu/hr) 1.61

	PM	PM10	SO2	NOX	VOC	CO
Emissions factor in lb / MMBtu	0.31	0.31	0.29	4.41	0.36	0.95
Potential Emissions in tons / yr	0.12	0.12	0.12	1.78	0.14	0.38

**Appendix A: Emission Calculations**

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***Potential Emissions from Entire source including proposed line 104***

**Company Name:** Kimball Electronics Auburn  
**Address City IN Zip:** 1015 West 15th Street Auburn, Indiana  
**Registration** 033-18168-00066  
**Reviewer:** RT/ EVP  
**Date:** December 9, 2003

<b>Emission Unit</b>	<b>PM</b>	<b>PM-10</b>	<b>SO2</b>	<b>NOx</b>	<b>VOC</b>	<b>CO</b>	<b>Single</b>	<b>HAPS</b>
	<b>(tons / yr)</b>	<b>(tons / yr)</b>	<b>(tons / yr)</b>	<b>(tons / yr)</b>	<b>(tons / yr)</b>	<b>(tons / yr)</b>	<b>HAP</b>	<b>(tons / yr)</b>
Existing Source Emissions	2.38	2.38	0	0	0.17	0	0.07 (Toluene)	0.14
Emissions from Line 104	1.08	1.08	0	0	14.96	0	1.35 (MEK)	1.35
Boiler	0	0.1	0	1.5	0.1	0	negligible	negligible
Diesel Generator	0.004	0.004	0.004	0.056	0.005	0.012	0	0
Gasoline Generator	0.12	0.12	0.12	1.78	0.14	0.38	0	0
Welding	0	0	0	0	0	0	0	0
<b>Total</b>	<b>3.58</b>	<b>3.68</b>	<b>0.12</b>	<b>3.34</b>	<b>15.38</b>	<b>0.39</b>		<b>1.49</b>